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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,880	12/15/2003	Yuval Yassour	61343.00002	5322

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SQUIRE, SANDERS & DEMPSEY L.L.P
600 HANSEN WAY
PALO ALTO, CA 94304-1043

EXAMINER	
SNIDER, THERESA T	
ART UNIT	**PAPER NUMBER**
1744	

DATE MAILED: 10/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/736,880	YASSOUR ET AL.	
	Examiner	Art Unit	
	Theresa T. Snider	1744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 August 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-54 and 56-99* is/are pending in the application.

4a) Of the above claim(s) *1-35* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *36-54 and 56-99* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/9/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 36-54 and 56-99 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. It is unclear as to where in the specification is disclosed that the high-pressure passage is 'converging'(claims 36 and 83). It is unclear as to where in the specification is located that the passage has a width of between 30-1000 microns (claims 36 and 83). The specification discloses the width of the 'throat section'(area from the end of the head to the surface) being between 30-1000 microns however fails to disclose the width of the passage being between 30-1000 microns.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 36-54 and 56-99 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Exemplary of such:

Claims 36 and 83, line 1, it is unclear as to what is meant by 'converging'. It is unclear as to how a single passage can converge.

Claim 36, line 12 and claim 83, line 14, it is unclear as to whether the 'a predetermined gap' is in addition to the gap of line 9 or one in the same;

Claim 36, lines 13-14 and claim 83, line 15, the 'throat section' appears to be defined as the same space as the gap of lines 9-10.

Claims 44-45 define the width of the passage to be larger or smaller, respectively, than the width of the throat section HOWEVER claim 36 recites the passage to be between 30-1000 microns wide which is the same as the throat section.

Claim 59-60, line 1, 'the cleaning head unit' lacks proper antecedent basis; 'unit' should be deleted.

Claims 61-62, lines 1-2, it is unclear as to whether the 'a support mechanism' is in addition to that of claim 36, line 9 or one in the same.

Claims 80-82, line 1, 'said at least one' high-pressure outlet lacks proper antecedent basis.

Claim 83, line 13, 'the effective cleaning surface' lacks proper antecedent basis;

line 13, 'the cleaning device' lacks proper antecedent basis.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 36-54, 56-57, 59, 61-66, 68-74, 77-80 and 82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uzawa et al. in view of Chino et al..

Uzawa et al. discloses a similar cleaning device however fails to disclose the dimensions of the passage or a control means.

Uzawa et al. discloses a cleaning head having at least one high-pressure passage with an outlet for accelerating the gas, the outlet having a lip with the area between the lip and an object being a throat section (fig. 1, #1,2a,11,6a). With respect to claims 36 and 39-41, it would have been obvious to one of ordinary skill in the art to determine the most appropriate passage width in Uzawa et al. in view of Chino et al. to allow for the most effective air flow for the greatest particle removal from a surface.

Uzawa et al. discloses a support mechanism for holding the object (fig. 6, #25,W).

Uzawa et al. discloses the width of the throat section/gap between the object and the head being 1000 microns (col. 3, lines 57-59). Chino et al. discloses a cleaning device with the width of the throat section/gap between the object and the head being in the micron range (col. 3, lines 7-8). It would have been obvious to one of ordinary skill in the art to adjust the width of the throat section in Uzawa et al. to the micron range, as disclosed in Chino et al., to allow for the most effective removal of the desired particles on a particular surface.

With respect to claims 37-38, Uzawa et al. discloses adjusting the distance between the object being treated and the outlet (col. 5, lines 38-40). It would have been obvious to one of ordinary skill in the art to determine the most appropriate means to adjust the distance in Uzawa et al. in view of Chino et al. to allow for the most accurate outlet placement.

With respect to claim 42, Uzawa et al. discloses the lip being pointed (fig. 1, edge proximate #11).

With respect to claims 43-45, it would have been obvious to one of ordinary skill in the art to adjust the throat width to the appropriate size in Uzawa et al. in view of Chino et al. to allow for the most effective air flow and particle removal from a surface

With respect to claim 46, Uzawa et al. discloses the pressure of the supply is regulated (col. 2, lines 53-55, can be 'off' or 'on').

With respect to claims 47-49, Uzawa et al. discloses the pressure of the gas being up to 100 bars (col. 4, lines 8-11 and 17).

With respect to claims 50-51, Uzawa et al. discloses at least one gas evacuation passage connected to a vacuum pump (fig. 1, #3, claim 1, lines 9-10).

With respect to claims 52-53, Uzawa et al. discloses a relative motion means that provides linear motion between the device and the surface (col. 2, lines 28-31).

With respect to claim 54, Uzawa et al. disclose the relative motion being angular (col. 3, lines 42-43).

With respect to claim 56, Uzawa et al. discloses a mechanical means providing the relative motion (col. 2, line 27 and col. 3, line 43).

With respect to claim 59, it would have been obvious to one of ordinary skill in the art that the cleaning head of Uzawa et al. in view of Chino et al. would need to be supported by a mechanical means in order that it may be suspended above an object.

With respect to claim 61, Uzawa et al. discloses the object to be cleaned is held with contact by mechanical means (fig. 6, #25,W).

With respect to claim 65, Chino et al. discloses an elongated outlet (col. 2, lines 64-65). It would have been obvious to one of ordinary skill in the art that the outlet of Uzawa et al. would be elongated, as disclosed in Chino et al., to ensure that the entire width of an object is treated.

With respect to claim 66, Uzawa et al. discloses at least two elongated lips having opposing throat sections at are substantially equal in widths (fig. 1, #12,11). Chino et al. discloses an elongated lip (col. 2, lines 64-65). It would have been obvious to one of ordinary skill in the art that the lips of Uzawa et al. would be elongated, as disclosed in Chino et al., to ensure that the entire width of an object is treated.

With respect to claim 68, Uzawa et al. discloses the passage is perpendicular to the object (fig. 1, #2a,2b).

With respect to claim 69, Uzawa et al. discloses the passage is tilted with respect to the object (fig. 1, #2a,2b, unnumbered regions where reference #s 24,13 are placed).

With respect to claim 70, it would have been obvious to one of ordinary skill in the art to determine the most appropriate outlet shape in Uzawa et al. in view of Chino et al. to allow for the most air flow to a given object.

With respect to claims 71-73, Uzawa et al. discloses the active surface being flat, arcuate and corresponding to the shape of the object (fig. 1, #8a,17, fig. 6).

With respect to claim 74, Uzawa et al. discloses the passage having a flow restrictor (fig. 1, #6a).

With respect to claim 77, it would have been obvious to one of ordinary skill in the art to place a flow restrictor in the evacuation passage of Uzawa et al. in view of Chino et al. to allow

for an acceleration of flow therefore to ensure that the particles are effectively removed from the object.

With respect to claim 78, Uzawa et al. discloses two outlets (fig. 1, #11,12).

With respect to claims 79-80, it would have been obvious to one of ordinary skill in the art to determine the most appropriate outlet configuration in Uzawa et al. in view of Chino et al. to allow for the most effective outlet placement for the most effective cleaning of an object.

7. Claims 58 and 81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uzawa et al. in view of Chino et al. as applied to claim 36 above, and further in view of Sjöberg.

Uzawa et al. in view of Chino et al. discloses a similar device however fails to disclose the ability of the head to move to different locations.

Sjöberg discloses a device with a gas passage that is capable of moving to different points (col. 3, lines 29-31). It would have been obvious to one of ordinary skill in the art to allow the head of Uzawa et al. in view of Chino et al. to move between different points, as disclosed in Sjöberg, to ensure complete treatment of the object.

8. Claims 36-41, 43-45, 50-53, 61-62 and 64-65, 82-86, 88, 90 and 99 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunter et al. in view of Chino et al..

Hunter et al. discloses a similar device however fails to disclose the claimed throat width or an elongated outlet.

Hunter et al. discloses at least one cleaning head with a high-pressure passage having an outlet with a narrow lip with the area between the lip and an object being a throat section (fig. 7,

#715). With respect to claims 36 and 39-41, it would have been obvious to one of ordinary skill in the art to determine the most appropriate passage width in Hunter et al. in view of Chino et al. to allow for the most effective air flow for the greatest particle removal from a surface.

Hunter et al. discloses a support mechanism for holding the object (0043, 0046).

Chino et al. discloses a cleaning device with the width of the throat section being in the micron range (col. 3, lines 7-8). It would have been obvious to one of ordinary skill in the art to adjust the width of the throat section in Hunter et al. to the micron range, as disclosed in Chino et al., to allow for the most effective removal of the desired particles on a particular surface.

With respect to claims 37-38, Hunter et al. discloses use of a mechanical or aeromechanical means to control the width of the throat section (0043).

With respect to claims 43-45, it would have been obvious to one of ordinary skill in the art to adjust the throat width to the appropriate size in Hunter et al. in view of Chino et al. to allow for the most effective air flow an particle removal from a surface.

With respect to claim 50, Hunter et al. discloses at least one gas evacuation passage (fig. 7, #709).

With respect to claim 51, Hunter et al. discloses the evacuation passage connected to a vacuum pump (0043).

With respect to claims 52-53, Hunter et al. discloses a relative motion means providing for linear motion (0043).

With respect to claims 56-57, Hunter et al. discloses the relative motion means being a mechanical or aeromechanical means (0043).

With respect to claims 61-62, Hunter et al. discloses the object supported by mechanical means or an air-cushion (0043, 0046).

With respect to claim 64, Hunter et al. discloses the head integrated with a platform (fig. 5, #400).

With respect to claim 82, Hunter et al. discloses the outlet is parallel to the object 9fig. 7, #705,715).

With respect to claim 83, Hunter et al. discloses a supporting means for the object (fig. 7, #704). Hunter et al. discloses a relative motion means (0043).

With respect to claims 84-85, Hunter et al. discloses the system able to accommodate both round and rectangular objects (fig. 5, a appropriate-sized rectangular object could fit on support).

With respect to claim 86, Hunter et al. discloses the supporting means including a platform that uses an air cushion (0043).

With respect to claims 88 and 90, Hunter et al. discloses the supporting means including a platform that contacts the object (0043).

With respect to claim 99, Hunter et al. discloses an optical scanner for inspecting a surface (0025).

9. Claim 87 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hunter et al.. Hunter et al. in view of Chino et al. discloses a similar system however fails to disclose a vacuum-preloaded air-cushion.

It would have been obvious to one of ordinary skill in the art to have the air-cushion of Hunter et al. in view of Chino et al. to be vacuum-preloaded to ensure a constant throat width.

10. Claims 93-94 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunter et al. in view of Chino et al. as applied to claim 83 above, and further in view of Meyer et al..

Hunter et al. in view of Chino et al. discloses a similar system however fails to disclose a heating means.

Meyer et al. discloses a cleaning system with a gas passage wherein the air is heated and discloses that the heated air helps to optimize cleaning of an object because it aids in deoiling and degreasing the object (col. 6, lines 9-14). It would have been obvious to one of ordinary skill in the art to provide a heater for the gas in Hunter et al. in view of Chino et al. to allow for optimal cleaning of the object by allowing for deoiling and degreasing of the object, as disclosed in Meyer et al..

11. Claim 96 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hunter et al. in view of Chino et al. as applied to claim 83 above, and further in view of Sjöberg.

Hunter et al. in view of Chino et al. discloses a similar system however fails to disclose a wetting means.

Sjöberg discloses a cleaning head with a gas passage and a wetting means (fig. 3, 24). It would have been obvious to one of ordinary skill in the art to provide the wetting means of Sjöberg in view of Hunter et al. in view of Chino et al. to allow for the use of a

cleaning fluid on the object for treating of the surface when the gas has removed the particles.

12. Claim 97 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hunter et al. inn view of Chino et al. as applied to claim 83 above, and further in view of Zoell.

Hunter et al. in view of Chino et al. discloses a similar system however fails to disclose an ionizer.

Zoell discloses a cleaning head with a gas passage having an ionizer (col. 4, lines 15-20). It would have been obvious to one of ordinary skill in the art to provide the ionizer of Zoell in view of Hunter et al. in view of Chino et al. to allow for neutralization of any electrostatically charged particles on the object so they may detached and removed from the object.

13. Claim 98 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hunter et al. in view of Chino et al. as applied to claim 83 above, and further in view of Uzawa et al..

Hunter et al. in view of Chino et al. discloses a similar system however fails to disclose an actuator.

Uzawa et al. discloses a cleaning head with a gas passage having an actuator (fig. 1, #6a, col. 4, lines 40-47). It would have been obvious to one of ordinary skill in the art to provide the actuator of Uzawa et al. in view of Hunter et al. and Chino et al. to allow for the destruction of any boundary layer that may exist to allow the gas to have direct contact with the object.

Allowable Subject Matter

14. Claims 60, 67, 75-76, 91-92 and 95 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

15. The following is a statement of reasons for the indication of allowable subject matter: the prior art discloses a cleaning device with at least one high-pressure passage with an outlet for accelerating the gas, the outlet having a lip with the area between the lip and an object being a throat section HOWEVER fails to disclose or fairly suggest the lip including at least two elongated lips having two opposing throat sections having different widths. The prior art discloses a cleaning device with at least one high-pressure passage with an outlet for accelerating the gas, the outlet having a lip with the area between the lip and an object being a throat section with an object support platform allowing for support of the object by an air-cushion HOWEVER fails to disclose or fairly suggest the outlet being supported by an air-cushion.

Response to Arguments

16. Applicant's arguments filed 8/4/2006 have been fully considered but they are not persuasive. Applicant argues the scale indicated by Uzawa et al. is larger than the claimed invention. This is not found persuasive because where the only difference between the prior art and the claims is a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device is not patentably distinct from the prior art device.

Conclusion

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Theresa T. Snider whose telephone number is (571) 272-1277. The examiner can normally be reached on Monday-Friday (5:30am-2:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on (571) 272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Theresa T. Snider
Primary Examiner
Art Unit 1744

THERESA T. SNIDER
PRIMARY EXAMINER

10/9/06